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ABSTRACT

This paper examines facts and faults of some of the relevant research concerning abortion and its psychological effects. The paper notes that because of research design flaws, conclusions are tentative at best. However, it is concluded that research suggests or indicates: (1) women primarily experience relief and few negative psychological sequelae in the short- and long-term after abortion; (2) women who experience anxiety and depression tend to be younger, unmarried, and more ambivalent about their decision and are more likely to avoid follow-up interviews; and (3) women undergoing subsequent pregnancies also become more vulnerable to delayed grief reactions as defenses weaken, and thus attrition and the use of defenses may result in an underestimation of the prevalence of negative sequelae following abortion. Risk factors identified include: characteristics of the woman prior to and at the time of abortion; the nature of social support and cultural milieu around the abortion; characteristics of the medical environment and abortion procedure; and events subsequent to the abortion which may have aroused post-decisional conflict. The paper concludes that researchers were biased and the effect of those biases has been to hinder accurate estimates of the percentage of women experiencing negative effects of abortion by creating a myth that such problems do not exist. (ABL)

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PSYCHOLOGICAL EFFECTS OF ABORTION: A CRITICAL REVIEW WITH IMPLICATIONS FOR PREDICTING WOMEN AT RISK

A Doctoral Research Paper

Presented to

the Faculty of the Rosemead School of Psychology

Biola University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Psychology

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by

Mary Elaine McFarlane

August 1990

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ABSTRACT

PSYCHOLOGICAL EFFECTS OF ABORTION: A CRITICAL REVIEW WITH IMPLICATIONS FOR PREDICTING WOMEN AT RISK

by

Mary Elaine McFarlane

Relevant research studying psychosocial effects of abortion is reviewed, and the methodology critiqued. Because of design flaws, conclusions are tentative at best. Research suggests that women primarily experience relief and few negative psychological sequelae in the short- and long-term after abortion. Women that experience anxiety and depression tend to be younger, unmarried, and more ambivalent about their decision. Such women are more likely to avoid follow-up interviews. Women undergoing subsequent pregnancies also become more vulnerable to delayed grief reactions as defenses weaken. Thus, attrition and the use of defenses may result in an underestimation of the prevalence of negative sequelae following abortion. Risk factors are discussed.

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Psychological Effects of Abortion: A Critical Review with Implications for Predicting Women At Risk

Introduction

The Supreme Court's decision to legalize abortion through Roe v. Wade in) plunged this country into one of the most emotional battles it has ever faced. Recent newscasts have referred to the debate as the most divisive moral issue today. Tom Brokaw, an NBC newsreporter, in a special report aired May 15, 1989, concluded by saying, "Abortion is the most emotional issue in the United States, (for it addresses) morality, individual rights, life and death. Pain exists on both sides (of the debate), but pain is needlessly greatened when the debate is shaped by cruel and baseless accusations and closed minds on either side." The Supreme Court's recent decision in Reproductive Health Services v. William L. Webster, requiring the states to rule on the abortion issue, urges them to remain objectively open-minded in this everpresent emotional debate.

Generally when objectivity is needed, questioners look to the relevant research for answers. Unfortunately, with respect to the physical and psychological effects of abortion, the literature reflects a similar division. Former

Surgeon General C. Everett Koop came to this conclusion and decided in January, 1989 not to release a long awaited report, claiming the scientific evidence on the psychological sequelae of abortion "simply cannot support either the preconceived beliefs of those pro-life or of those pro-choice" (Landers, 1989). Koop's statement reflects the lack of methodological rigor in the literature as well as the divergent conclusions, and Koop's action emphasizes the importance of suspending judgment until a sufficient number of well-designed and controlled studies are done. The intent of this paper is to delve into the facts and faults of some of the relevant research concerning abortion and its psychological effects. With a greater understanding of the research findings, one can appreciate the dilemma facing not only state legislatures but more than a million women in the United States who face abortion each year.

Methodological Issues

Peppers (1987) stated that studies of the psychological effects of abortion had been conducted as early as the 1940s, but they changed in nature after the abortion ruling in 1973. Prior to 1973 the studies reflected a clinical diagnostic approach and were based on small sample sizes and biased interpretations. This biased approach largely came about because of the need for doctors to determine that a woman was mentally or psychologically unfit to carry a fetus

to term. Women who decided to abort were seen as pathological by definition of their rejection of their pregnant status (Ford, Castelnuovo-Tedesco, & Long, 1972; Speckhard, 1987).

Since 1973 the research has been broadly descriptive of the psychological effects of abortion, and the incidence of various emotional reactions has varied greatly across studies (Peppers, 1987). Speckhard (1987) explained this change as a theoretical shift in the conceptualization of the abortion decision. Because abortions were given a new legal status in 1973, and thus not considered an indication of pathology, research began to focus on abortion as an adaptive mechanism to cope with the stressor event of an unwanted pregnancy. This shift is evidenced by an increase in the literature regarding adaptive outcomes of abortion, principally relief from stress (Speckhard, 1987). Most reviews highlight the immediate relief felt after the abortion procedure, and if regret or guilt are experienced, these are generally considered mild and temporary reactions.

However, the abortion literature has been criticized from its beginning. As early as the late 1960s, researchers encouraged the use of formal psychological testing, quantitative measurement devices, and relevant control groups (Kane & Ewing, 1968). Yet even today, research is considered sparse, unsystematic, methodologically questionable, poorly conceptualized, inappropriately

operationalized, and lacking in objectivity (Bracken, Hachamovitch, & Grossman, 1974; Peppers, 1987). An American Psychological Association report sent to Koop in 1988 listed several critical scientific weaknesses in the research studied: (a) failure to use representative samples, (b) failure to use appropriate comparison groups to determine whether the psychological consequences following abortion are different from those following adoption, being single with an unplanned infant, being married with either an unplanned or planned infant, or experiencing some other surgical procedure, (c) failure to use scientifically sound measures of a woman's psychological condition, (d) failure to assess a woman's psychological condition both before and after an abortion, (e) failure to rule out environmental, physical, or social factors that might affect a woman's psychological condition and are independent of the abortion, (f) failure to include factors that may influence a woman's vulnerability to psychological stress and disorders, such as coping skills, emotional stability, social support or expectations, and (g) failure to follow a woman's psychological condition over a long time period to detect temporary versus chronic conditions and immediate versus delayed responses (Landers, 1989). Other discrepancies, such as differing reasons for the abortion (medical, genetic, elective) and differing dependent variables (from satisfaction to psychoses), create difficulties in comparing

results (Landers, 1989).

After systematically reviewing 61 quantitative studies conducted between 1966 and 1985, Lyons, Larson, Huckeba, Rogers, and Mueller (1988) offered another interesting criticism of the literature. They discovered that controlled studies of abortion lacked sufficient statistical power to detect significant effects (generally due to small sample size). The power index reflects the probability of statistically detecting a real difference, for example, a difference between abortion and term women on some outcome variable (Rogers, 1987). The power in most studies was less than .30; thus, each of these low-power studies had more than a 70 percent chance of failing to detect a reasonably large difference between the groups. Lyons et al. concluded that it is not surprising that the majority of studies did not detect any psychosocial effects of abortion. The researchers claimed that if one is to scientifically address the impact of abortion on the woman, documentation of no negative impact is not sufficient. Adequate sample sizes must be used. Further, instead of one-tailed tests of whether or not abortion leads to increased negative psychosocial sequelae, two-tailed tests of the impact using both positive and negative outcomes must be done.

Lyons et al. (1988) also recommended specific control groups for the post-abortion sample because over two-thirds of their reviewed studies failed to use control groups.

These recommended control groups included post-delivery women who had considered an abortion, women who aborted spontaneously, post-delivery women who did not wish an abortion, and post-delivery women who were refused an abortion. The experimental and comparison groups should be matched on age, support systems, and socioeconomic status, and chosen through a random sampling frame of all women seeking abortions or delivery. Of the 61 studies, Lyons et al. found only one study that had used a random sample. Without well-designed, empirically controlled studies, Lyons et al. concluded that science has little to offer to the understanding of the role of abortion in society. Without the time and effort given to employ this rigor, emotions, not reason, will continue to mediate this debate.

Thus, abortion research has been predominantly clinically descriptive, relying on case studies, anecdotal reports by psychiatrists, and subject self-reports, and has had inadequate sample sizes, control groups, and statistical analyses. Along with its many predecessors, this present review points to the need for controlled empirical research on the subject of abortion and its effects to adequately address internal and external validity issues. Taken as a whole, abortion research is found to be severely lacking; however, individual studies have attempted somewhat to move in the direction of controlled research. Some of the studies presently investigated have offered some heuristic

as well as clinical value in understanding those women potentially at risk for a negative reaction and the support needed in helping them recover. Others have concluded that the psychological aftereffects of abortion are nothing more than theoretical and societal myths. Can anything explain this division?

Selection Criteria and Organizational Preview

The discussion that follows is based on a review of the psychological literature published in the United States since 1972 on women who have had elective abortions. At first, a computer search of the PsycLIT database was conducted using the keyword "abortion." Then multiple searches using varying key words were used to maximize the inclusion of relevant articles in the review. Specific studies to be included dealt with psychosocial effects of abortion in both the short- and long-term.

In organizing the literature this paper will first discuss short-term psychosocial effects following abortion. Then the overall impact of studies' attrition rates and subjects' defense mechanisms on results will be discussed as a bridge to the results on long-term psychosocial effects. Following this will be a theoretical and clinical presentation on the implications of denial and emotional repression. Finally, characteristics of women who are at greater risk for emotional distress following abortion will

be examined.

Short-Term Psychological Effects

Studies examining short-term effects of the abortion process represent the bulk of research on this topic. Most researchers in this review administer some type of a psychological measure immediately at the time of the abortion procedure, whether before or after the procedure, or both. For the purposes of this review, short-term effects represent the effects examined on the day of the abortion procedure to seven months after the experience. They will be organized and presented based on the interval between the abortion and the follow-up measure (i.e., less than two weeks, three to six weeks, eight to twenty-eight weeks). Emotional sequelae will be discussed first. Following this section, the adequacy of short-term outcome measures will be examined with specific focus given to the problems of attrition and denial.

Emotional Sequelae Following Abortion

Immediate to two-week follow-up data. Studies that examine the actual abortion procedure and immediate short-term effects vary greatly in assessing the psychological and medical consequences. Although the methods are different, the findings are predominantly the same. With the Roe vs. Wade decision in 1973, Fingerer's (1973) study reflected the beginning research trend to portray abortion effects as

practically nonexistent beyond a situational reaction adjustment. Fingerer's sample consisted of 259 women who presented for abortion over a three-week period and met selection criteria. Of these women, 177 completed and returned post-tests some time after their abortion. Fingerer also used comparison groups consisting of men and women who accompanied the subjects, postdoctoral students, and a combination of undergraduate and graduate students who roleplayed the abortion process. The comparison groups completed the same psychological tests as the subjects, and those in the role playing group were asked to respond as if they were about to have an abortion or accompanying someone about to have an abortion.

The results indicated that the women the day after their abortion scored the best of all groups on all three tests (measuring state anxiety, depression, general affect). They also scored significantly lower than their pre-test scores. Thus Fingerer concluded they felt immediate relief. The other comparison groups predicted that women would feel more depressed after their abortions. Fingerer believed that these groups represented the tendency to feel how terrible the whole situation would be from the perspective of someone not actually in it. She concluded that on average there was little expected anxiety and depression and no immediate negative psychological aftereffects.

Fingerer did admit that 32% of the initial sample of

259 women failed to return the tests, and of the remaining group that completed the tests, only half returned them the day after the abortion. Though not specified, one assumes the other half of this group returned the tests at any time after their abortion. Fingerer vaguely stated that some women who did return the tests the next day expressed feeling very anxious and depressed; no specifics are given as to the number of these women or the degree of their distress. Given that this study is often cited as clearly documenting immediate relief, it is worth noting that attrition and researcher ambiguity taint the certainty of her conclusions. Not specifying the exact criteria used to determine distress and exactly how many met those criteria could serve to suppress the actual numbers involved in the ambiguous conclusion that few women experienced distress. This criticism applies to a number of studies documenting relief and a quick recovery.

The benchmark study by Osofsky and Osofsky (1972), conducted before the 1973 legalization ruling, shares the same problems as Fingerer's (1973) study, though these are rarely if ever mentioned in literature reviews. These researchers began their study with 380 women between 12 and 44 years of age presenting for abortion. Each was interviewed with subjective measures shortly after their abortion (time not specified but assumed to be on the day of the abortion) to provide support and determine reactions to

the procedure. The authors stated this part of the evaluation was not initiated until after the program was underway, so as a result, 250 reports were available. In the procedural section, Osofsky and Osofsky stated they interviewed the women in a follow-up within one month of the abortion to determine any change in attitudes. However, they failed to clarify the specific follow-up measure on which the results were based. Their results appear to represent the women's attitudes immediately after the abortion procedure, though it is possible that a one-month follow-up was reported as immediate post-abortion data.

Though attrition and self-report were important problems, Osofsky and Osofsky (1972) concluded that few women were objectively distressed and most expressed relief, happiness, and only minor negative feelings. They were more specific concerning the percentages of women experiencing unhappiness (14.7%), crying (15.8%), guilt (22.8%), and anger (8.7%) than Fingerer (1973). The researchers also found that 28% of the women found the decision considerably difficult, primarily because they wanted the child and felt psychological discomfort. They did find that difficulty in making the decision to abort correlated significantly with difficulty with the procedure (minor complications during surgery), and both correlated with fear of the procedure; all three have correlated with a stronger desire for future children. In addition, Catholic patients particularly felt

greater guilt over the abortion and had greater difficulty making the decision, and yet they reported having minimal negative feelings post-abortion.

Osofsky and Osofsky (1972) recommended that health care services attend to those experiencing guilt, yet "for perspective" they added that strong negative feelings occurred relatively infrequently among all groups of patients. Their bias is apparent. Though they advocated objective research, they concluded, "regardless of the outcome of present or future studies the woman's right to self-control should not be obscured. . . . Increased information should be used to help the relevant individuals and not to abridge their rights" (Osofsky & Osofsky, 1972, p.59). Like Fingerer's (1973) conclusion, this also appears presumptuous given the tendency to dissolve those that experience negative reactions into the average.

Recent studies have not improved upon this lack of specificity. Strassberg and Moore (1985) found abortion to be stressful for many; however, they concluded that the physical and emotional recovery was often quick and relatively complete. No numbers were given to specify how many found abortion stressful, nor were comparative data offered to assess rapidity and completeness in recovery. In examining immediate effects of the abortion procedure, they used an intervention design. Two hours prior to their abortion, the 116 subjects either watched a 12 minute

videotape of a model undergoing the abortion procedure or they watched the counselor give the same information. A number of psychological and physical symptom measures were given before and after the procedure and at a two-week follow-up.

Those who saw the film scored lower on subjective distress immediately following abortion and recorded fewer autonomic symptoms at follow-up. The researchers concluded that viewing a modeling film before the procedure significantly decreased subjective distress (i.e., anxiety and depression) experienced immediately afterwards. This subjective distress difference disappeared at the two-week follow-up. At follow-up the groups differed significantly only on the physiological measure. To account for this, the researchers surmised that reduced psychological stress immediately after the procedure may have translated into reduced physical stress during the two-week recovery period. They claimed this lack of effect appears related to the psychological resiliency of the women. Yet by implication their findings suggest sufficient negative reactions existed to leave room for improvement with the experimental procedure.

Naor, Assael, Pecht, Trainin, and Samuel (1983) actually investigated an immediate physiological response to the abortion procedure as a measure of a psychological stress reaction. They examined the degree to which an

emotional response to stress caused by the loss of an unborn child (due either to induced or spontaneous abortion) affected cells' immune response to foreign matter. Their sample was divided into two groups, women who did not accept the loss of their unborn child and did not "work out" or "cope" with this event (n = 41), and women who did accept the loss and who showed fewer feelings of anxiety, depression, and guilt (n = 36). Thus they examined both tails of the distribution, looking at positive and negative reactions. The study also included a control group of 10 women who underwent a surgical intervention such as an ovariectomy. (Unfortunately, for the purposes of this review they did not specify the number of nonaccepting women who had induced abortions.)

A comprehensive clinical psychiatric exam followed the abortion (3 to 5 hours later) which included subjects' verbally stated feelings, two psychiatrists' ratings, and written responses to three rating scales which measured depression, guilt, and anxiety reactions. Blood samples were then obtained and the immunological tests performed.

Results showed a significant correlation between the severity of the psychiatric reaction and suppression of cells' immune ability. The mean of the immune response in the nonaccepting group was 50% lower relative to the accepting group. (The researchers did not offer results that directly compared elective and spontaneous abortions, which

could have proven informative.) The response of the control group was indistinguishable from the accepting group. Thus women who were not accepting of their loss, whether induced or spontaneous, were more apt to evidence a greater immediate stress reaction to the abortion procedure. The non-accepting group felt a significantly greater amount of depression, anxiety, and guilt than the accepting group. They also were more apt to experience greater depression than anxiety and guilt. Naor et al. hypothesized that anxiety and guilt were more circumstantial reactions, while depression was a deeper emotional reaction requiring greater effort in order to cope. Since this study assessed reactions immediately after the abortion, the question of longer term psychological reactions remains unanswered. However, Naor et al. (1983) did address a unique variable, women's acceptance of the loss, and its effects on subsequent coping immediately following abortion.

Overall, the primary immediate effect is relief, although a minority of women, perhaps as many as 28%, experience some negative effect, such as psychological discomfort. Difficulty in making the decision due to nonacceptance of the loss or a desire for future children seem to increase the likelihood of negative sequelae. The discussion will now turn to the psychological effects of abortion as measured by a three- to six-week follow-up.

Three- to six-week follow-up data. Following in the

footsteps of Naor et al. (1983), Major, Mueller, and Hildebrandt (1985) also addressed internal psychological variables and their effects on a woman's ability to cope immediately after her abortion and three weeks later. They examined the effects of women's attributions of blame, expectations for coping, meaningfulness of the pregnancy, and the degree to which the pregnancy was intended. Coping was operationalized in terms of four reactions to the abortion: physical complaints, affective state, anticipation of future negative consequences from the abortion, and depression, assessed by a short form of the Beck Depression Inventory. Of the 247 women in the original sample, 99 returned to the clinic three weeks later for their follow-up medical visit and readministration of the three psychological measures.

Major et al. (1985) discovered that women who blamed themselves for their pregnancy rather than their circumstances coped significantly worse immediately after the abortion, feeling more depression, anticipating more negative consequences, and having more negative moods. This effect was insignificant at the three week follow-up, though these women still had a greater tendency to anticipate negative consequences. In addition, those women who had low coping expectations before the abortion were experiencing significantly poorer mood and more depression three weeks afterwards than women who had high coping expectations.

Similar to Naor et al.'s (1983) non-accepting group, the Major et al. (1985) women who found the pregnancy to be highly meaningful coped worse immediately after the abortion, as measured by increased physical complaints and anticipation of greater negative consequences. (The researchers added that they had intended meaningfulness to describe the ability to find meaning in one's negative life events; however, by asking about the meaningfulness of the pregnancy and not of the abortion they may have actually assessed how much the women valued the pregnancy.) Interestingly, those women who indicated they wanted their pregnancy showed no significant differences immediately after the abortion; however, in three weeks these same women were significantly more depressed than women who had not indicated they wanted their pregnancy. Major et al. suggested that these women may have valued the pregnancy more and thus felt they had lost more by terminating the pregnancy. The researchers noted their results have implications for women more likely "at risk" for negative reactions, and advocated more research to address the ways in which negative life experiences were found to be meaningful.

While Major et al. (1985) explored new territory in abortion research, their study also suffered from the same problems mentioned earlier, that of attrition and ambiguity. Major et al. did acknowledge the possibility that women who

returned to the clinic for their check-up were coping more successfully three weeks later than women who did not return. Yet they stated this was impossible to confirm since the 60% of women who failed to return could not be contacted. Many of these women stated they were planning to visit their personal physician or a closer clinic for the follow-up appointment. Since no significant difference arose in comparing immediate reactions to the abortion between returners and non-returners, Major et al. concluded that the women who returned did not appear different from the total sample.

Several issues remain to be explored concerning the demand characteristics inherent in returning to the abortion clinic. Did women feel they could freely disclose all their feelings? Would they have answered differently had they been questioned by an interviewer not identified with the clinic and at a different location? These questions could have been addressed as part of the follow-up. The demand characteristics seem to pull for women to respond that they suffered little or no lasting negative effects of the abortion. One wonders why no provision was made to contact the women who initially stated they would go somewhere else for the follow-up. A mailed questionnaire could have provided some interesting comparisons.

Major et al. (1985) also failed to cite specifics concerning women who coped poorly. Overall, they stated

that most women coped very well immediately after the abortion and even better three weeks later. And like many other researchers, they reported that some women did report extremely poor coping, without indicating numbers and degree of distress. This becomes problematic when researchers conclude that negative aftereffects of abortion represent a societal myth (Fingerer, 1973). Those who experience relief are focused upon to the exclusion of those who suffer distress. More importantly however, high attrition rates are likely to distort the group average, especially if there is good reason to suspect that negative reactions are more likely among the nonreturners (Adler, 1976). Thus such broad conclusions regarding abortion's benign effects appear to be overstated given the methodological shortcomings in the literature.

Demand characteristics remain throughout the abortion literature. One questions their effects in one such study in which the young women were interviewed at the clinic before and six weeks after their abortions by the senior author. Grace and Tang (1982) conducted a study of 100 Hong Kong women under 25 years of age referred to a clinic over a period of two years. The author interviewed the women both before and after the abortion and saw them six weeks after the procedure to assess feelings about the operation. (All but seven returned; a significant improvement over other studies.) No psychological measures were administered. The

senior author maintained that sufficient trust had been established to state with considerable confidence that the majority had no untoward postabortion psychological sequelae. Six weeks later seventy-six women expressed relief; sixteen experienced some temporary unhappiness, and one regretted it. This one woman required counseling in the year after her abortion. As with most of the literature, Grace and Tang reported some temporary unhappiness reactions and an even smaller number of regret responses, but these findings were dominated by the greater relief effect.

Thus emotional effects 3 to 6 weeks following an abortion seem to follow the same pattern as the immediate effects of abortion. The predominantly reported emotional response is relief, but 17% experienced some temporary unhappiness and 1% regretted the abortion substantially enough to require therapy throughout the next year. In addition, several risk factors for negative effects were identified by Major et al. (1985). Though these negative percentages appear small, when multiplied by the 1.5 million women who obtain an abortion in this country each year, the number grows proportionately larger. In examining research that used longer follow-up periods (i.e., eight to twenty-eight weeks), this review will begin with one study that attempted to account for all women of child-bearing age in Denmark.

Eight- to twenty-eight week follow-up data. David,

Rasmussen, and Holst (1981) addressed the issue of sample size and statistical power in their large Danish study that compared 71,378 women carrying pregnancies to term, 27,234 women terminating unwanted pregnancies, and the total population of 1,169,819 women aged fifteen to forty-nine. Using the computer linkage of the Danish national case registry, the researchers investigated the comparative risk of admission to a psychiatric hospital within three months of an abortion or term delivery for all women under age fifty residing in Denmark. Any women who had been admitted to a psychiatric hospital fifteen months prior to delivery or abortion were excluded, thereby increasing the similarity between the control and treatment group on pre-pregnancy mental health.

David et al. (1981) results indicated that women who were post-abortion evidenced the highest rate of psychiatric hospitalization (18.4 per 10,000); women who delivered had the next highest rate (12.0 per 10,000); and all women in the total age range, regardless of pregnancy status, had the lowest (7.5 per 10,000). Another interesting finding concerned the women's marital status; among those who were separated, divorced, or widowed, a dramatic difference in hospital rates existed (63.8 per 10,000 for women who aborted versus 16.9 per 10,000 for those who delivered).

In critiquing David et al. (1981), Rogers (1987) commented that given the study's statistical power (.99), it

is far superior to smaller studies that measure less severe levels of depression, anxiety, and guilt. Because this study is quite sound methodologically, greater weight can be given to the conclusion that women who undergo abortions are more likely to require psychiatric hospitalization than women carrying their pregnancies to term, and women in the general population.

In comparison, it is no wonder that a study with sample size of 20, even with an average seven-month follow-up, failed to detect significant negative sequelae. Monsour and Stewart's (1973) results concurred with others at the time (Fingerer, 1973; Osofsky & Osofsky, 1972) in their study on 20 college women randomly drawn from a sample of 102 women who elected abortion. The predominant feeling expressed in an intensive follow-up study (all self-report with an untrained interviewer), occurring from 1 to 25 months, was relief from the strain of being pregnant. One woman expressed feeling very guilty for destroying a life; these feelings disappeared after five months according to the follow-up interview. Another woman said she felt miserable for eight or nine months especially when she saw a baby, but then went to a counselor for some time and felt better. Monsour and Stewart concluded the majority of women felt more free, strong, mature, and self-responsible after their abortion experience. (A matched control group of women who had not become pregnant during the two-year period was

employed, but nowhere do the authors compare the two groups in the report.)

In summary, research on immediate and short-term effects of abortion indicate that the primary feeling experienced is relief. Researchers have noted a small proportion of women (often unstated specifically) experienced substantial regret, depression and anxiety, yet they claim such reactions are situational and temporary based on follow-up measures anywhere from one day to seven months. The exact size of this proportion is often left unstated, but the few studies that do report percentages estimate that up to 28% experience psychological discomfort. At least 1% require psychological counseling for about a year after the abortion, with .2% requiring psychiatric hospitalization, which is a 50% higher rate than that for women who recently had a baby. This would mean that, of the 1.5 million abortions in the United States each year, 420,000 experience psychological discomfort, 15,000 require long-term therapy, and 2760 require psychiatric hospitalization. These numbers make it important to be able to predict which women are most at risk for negative effects of an abortion. As a beginning, the studies have identified the following characteristics that place a pregnant woman at higher risk for negative effects following an abortion: difficulty making the abortion decision, strong desire for future children, Catholic religion, difficulty accepting the

loss of their unborn child, attribution of blame for the pregnancy on herself rather than on her circumstances, low coping expectations, high meaning attached to the pregnancy, wanting to be pregnant, and being separated, divorced, or widowed.

However, many studies failed to find negative effects, often because of small sample sizes, and thus concluded, perhaps erroneously, that the degree of subsequent psychological trauma is no different between an abortion and term-delivery group (Rogers, Phifer, & Nelson, 1986). In an effort to make a statement regarding abortion's benign effects, researchers have failed to design studies that can detect effects of abortion, whether positive or negative. Relatedly, they overlook and avoid exploring the proportion of women who do suffer from emotional distress. Considering the problems of small sample size, attrition, and subjects' use of emotional avoidance or denial, their conclusions must be interpreted with caution. The strongest study methodologically found that women had an increased likelihood of requiring admission to a psychiatric hospital for the months following abortion, a rate that was 50% higher than women during an equivalent post-delivery period, and over twice the rate of women in general. This kind of discrepancy in the findings raises questions about the adequacy of short-term outcome measures, which will now be explored, beginning with the subjects' use of defense mechanisms such as denial

and repression. A discussion on the effects of attrition will follow.

Adequacy of Short-Term Outcome Measures

Defense mechanisms. Both Monsour and Stewart (1973) and Freeman (1977) described "the conspiracy of silence" surrounding a young woman's sexual behavior. Their subjects, who were considered representative of young women who have abortions, kept the secret of their sexual behavior from themselves (a form of denial) in that an active emotional awareness of their sexual behavior was lacking. Ninety percent of the subjects failed to use any form of birth control (Freeman, 1977). Freeman explained that a number of her subjects had not thought pregnancy could occur; they avoided a conscious consideration of the probable result of their sexual activity. Is it not possible that the women remained equally detached from their experience of abortion and their reactions to it?

Freeman's (1977) results suggested that this same avoidance, effective before pregnancy, was present for some women immediately after the abortion and four months later. Some women apparently avoided the issue by refusing to participate, by refusing follow-up contact, and by failing to return follow-up questionnaires. Six percent of those initially asked to participate (n = 350) refused due to feeling too upset or hostile initially after the abortion (or unable to understand English). Of the remaining 329

women, 250 (76%) agreed to fill out and mail in a questionnaire four months after their abortion. Those who refused were significantly younger and never married. One hundred eight women responded four months later (attrition rate of 87% from all those initially asked to participate; attrition rate of 43% from those who agreed to follow-up). Those who failed to respond to the follow-up questionnaire did not differ significantly on demographic variables and contraceptive use; however, they did evidence more emotional difficulties. Nonrespondents were less likely to seek abortion if an unwanted pregnancy occurred, were less likely to want abortion for themselves (more for parents, partners), and were more likely to find the procedure harder than expected.

Despite the evidence that nonrespondents were systematically different than respondents, Freeman (1977) concluded that her findings were consistent with earlier studies. A majority (60%) of the 108 women who returned follow-up questionnaires had resolved their negative feelings. A small minority (10%) regretted their abortions. Sixty-five percent stated they did not know if they would choose an abortion again if an unwanted pregnancy occurred. Only 22% said they would; 13% stated they would have an unwanted child.

Freeman's (1977) findings also replicated a growing trend; those women who wanted their pregnancies (39%) were

significantly less likely to experience relief and felt more depression immediately than women who did not want their pregnancies. More of these women had not resolved their feelings at follow-up, especially if they saw themselves as easily hurt, worried, restless, and confused (n = 35). They were still upset about their abortions, and found it too upsetting to think about. Freeman felt that these women used repression or avoidance of feelings as one method of coping with their negative reactions. Their emotional reactions could possibly have been much greater had they not employed defenses to try and keep painful feelings out of awareness. Is it possible that other women who reported relief were simply more successful in keeping defense mechanisms intact? Again, 65% did not know whether they would have another abortion, which could reflect the individual nature of each pregnancy and/or the women's underlying ambivalence about the procedure. Clearly, the extent to which these women use defense mechanisms as coping devices requires further study, given the potential that these defenses may be masking an underlying reaction to the abortion.

Equally relevant is the number of women who failed to respond in this study. Is it possible that those women who do respond to follow-up maintain defenses well whereas those who do not are having greater difficulty keeping their distress under control? Though this connection is obviously

speculative, the connection between women who drop out and greater emotional reactions is less so. The numbers of women reporting a distressful reaction would probably increase if the 221 women who failed to participate in the follow-up had in fact responded. Freeman (1977) did find that these women were more likely to have emotional difficulties, which suggests that attrition rates are likely to distort a study's conclusions. Adler (1976) recognized the impact of attrition on abortion studies and set out to discover how great the problem was.

Attrition. Adler (1976) examined the actual effects of attrition on abortion studies. She reviewed 17 studies and discovered that the percent of the initial sample lost to follow-up ranged from a low of 13% to a high of 86%. If factors affecting participation in research are associated with psychological sequelae, then the nature and frequency of sequelae established in research (based on volunteer samples) may not accurately reflect the actual responses of the entire population of women undergoing abortion. Indirect evidence indicated that nonresponders may have more negative reactions. In her own study, Adler (1976) asked 150 women to participate and 100 volunteered. Of these 100, 75 agreed to return for a follow-up two to three months later at the agency that provided aid for unwanted pregnancies. Adler stated that self-selection occurred at two points in the process: in the initial act of

volunteering, and in the return for the follow-up interview. Adler followed up the subjects who did not complete the study and found them more likely to be young, Catholic, and unmarried. These nonreturners were also more likely to experience negative emotions (fear of disapproval, and feelings surrounding the loss and personal meaning of the abortion) than returners. Adler felt these women had greater motivation to keep the abortion hidden, and thus continue the "conspiracy of silence."

Adler (1976) noted that a number of these women dealt with the abortion by forgetting about it once it was over. The follow-up interview may have challenged this coping strategy. Her results do suggest that a connection exists between attrition and avoidance of thinking about the abortion experience. Nonreturners may be more likely than returners to use avoidance as a general coping strategy, or they may have greater need specifically to avoid thinking about the abortion. In any case, Adler concluded that the differences between returners and nonreturners suggest the possibility of systematic factors affecting the return of the women for the second interview. Importantly, Adler added that the literature to date may well underestimate the number of women who experience adverse psychological reactions after an elective abortion. As noted, studies since Adler's have not dramatically improved; the range of attrition rates in recent studies was a low of 2% and a high

of 60%, with an average rate of 30%.

As Adler (1976) established that attrition is indeed a large problem in the abortion research, to what degree do defense mechanisms such as denial affect the results? It has been suggested that women who do not return use denial as a coping mechanism, but the question remains whether or not women who do return for follow-up use some type of defense mechanism. The relevant research literature does not address such a question; thus the discussion to follow will look to clinical findings and theory surrounding the use of denial. The use of defense mechanisms such as denial and repression will be offered as another possible explanation (in addition to attrition) for the general paucity of negative sequelae reported at short-term follow-up.

Denial as a coping mechanism. One woman in Adler's (1976) study was very reluctant to return for the follow-up interview. She said she wanted it soon after the abortion because "it's my last obstacle to forgetting about it (her abortion)" (Adler, 1976, p. 257). Many women appear to avoid thinking about their abortion, just as they have avoided conscious consideration of the probable results of their sexual activity (Adler, 1976; Freeman, 1977; Monsour & Stewart, 1973). But the degree of denial reaches even further. In his 1989 letter to President Reagan, the former Surgeon General Everett Koop wrote:

> When compared to the number of abortions performed annually, 50% of women who have had an abortion apparently deny having had one when questioned. It is imperative that any survey be designed to eliminate the discrepancy between the number of abortions on record and the number of women who admit having had an abortion on survey. It is critical that this problem of 'denial' be dealt with before proceeding with further investigations. ("Measured Response," 1989, p. 32)

The use of denial then is not limited to the repression of negative feelings surrounding abortion, but includes the admission of the procedure's existence. The range of denial is far-reaching and potentially has a large impact on the abortion literature.

The range of denial reflects a large continuum of mature to less mature defenses. Generally defined, denial is a means of defending against anxiety by disavowing reality (Kaehler, Goodwin, & Young, 1989). Disavowals of reality range from psychotic denials or absence of reality contact, to neurotic mechanisms (i.e., dissociation, isolation of affect, repression), and to mature mechanisms (i.e., minimization, suppression). Medical literature suggests that those using denial evidence an equal amount of nonadaptive and adaptive outcomes (Lazarus & Folkman, 1984). Kaehler et al. (1989) suggested this finding may in part reflect the difficulty in defining the degree of denial exhibited by different patients, from pathological denial or complete negation of the threat of danger, to minimization in which the threat of danger is more ambiguous. By

implication, this suggests that post-abortive women may present different degrees of denial, and identification of such is difficult. It also suggests that some women using denial may have adaptive outcomes, while others may function nonadaptively.

Kaehler et al. (1989) explained that denial at certain stages of a medical illness can be adaptive. However, it is detrimental when it prevents the patient from adhering to a medical regimen that would decrease the actual danger of the procedure or illness. If a medical and psychological check-up following abortion is considered to decrease the overall or ensuing "danger" of the procedure, then are women who fail to return denying to their detriment that complications may exist? It is difficult to know precisely how many women use denial in its various forms simply because by its very nature it is not readily in one's conscious awareness. The possibility also exists that a number of women, in addition to those who drop out of studies, use denial as a coping mechanism. This is surmised given the number of women who fail to admit they have ever had an abortion and given the women who at some point later in life recognize painful feelings and their earlier denial.

Thus, researchers need to directly address the use of denial, in its various forms, by women undergoing abortion. As mentioned, researchers have begun by focusing on the conspiracy of silence surrounding a woman's sexual behavior.

This focus needs to encompass the abortion procedure as a further denial of sexual behavior. Some researchers have found preliminary evidence indicating that women who fail to return at follow-up use avoidance of feelings or denial as a coping mechanism. This critical issue mandates a serious response.

Speckhard's (1987) self-selected survey study is one such example of a small-scale attempt to focus on those women who report negative reactions to their abortions and the use of denial anywhere from 1 to 25 years afterwards. Thirty women, demographically representative of women obtaining an abortion, volunteered to undergo a structured phone interview. They were asked a number of questions involving the circumstances under which they became pregnant, the manner in which the abortion decision was made, their experience of the procedure itself, and their stressful reactions to it.

Women who denied to themselves and their families that sexual activity was occurring reported that they engaged in abortion as a coping strategy to further the denial that a pregnancy ever existed. Following the abortion, they said they suppressed their affect in order that the pregnancy and abortion could continue to be denied. Denial and repression thus appeared to contribute to high stress reactions because the emotional reactions were too strong to repress, causing subjects to be confronted with emotions and behaviors that

led up to them. Speckhard suggested further experimental clarification on the use of denial and repression in coping with abortion stress.

Other researchers and clinicians have found that women experiencing abortion may resort to denial, repression, and emotional numbing as coping behaviors (Bracken, Hachamovitch, & Grossman, 1974; Campbell, Franco, & Jurs, 1988; Fisher, 1979; Harris, 1986; Kaehler, Goodwin, & Young, 1989; Kent & Nicholis, 1981; Lemkau, 1988; Raphael, 1983). These findings are generally substantiated through anecdotal report, not responses on follow-up measures. Results indicate that adolescents appear more likely to resort to using less mature defenses such as denial (Campbell et al., 1988; Lemkau, 1988). This finding is significant given the greater tendency of young, unmarried women to fail to return for follow-up. Again, these women appear to be underrepresented in the literature, thus making conclusions even more difficult regarding the use defense mechanisms and negative sequelae.

Raphael (1983) in The Anatomy of Bereavement explained how this denial can affect one's immediate reaction to an abortion. In order to make the decision to terminate a pregnancy, she said, some women may have required a high level of defensive denial of their tender feelings for the fetus. This denial often carries the woman through the abortion procedure and the hours immediately afterward, so

that she seems cheerful, accepting but unwilling to talk at that time when supportive counseling may be offered at the clinic. These professionals to whom the woman turns for support may also give her the covert message that her affects should be of pleasure and relief, rather than sadness, failing to recognize that the two may coexist. So because society does not recognize abortion as involving a loss, women appear very reluctant to discuss negative reactions to something they chose for themselves (Joy, 1985). This masking of emotional responses may occur both at the time of abortion and in later contact with professionals. If grief persists after abortion, Raphael added, it may surface in disguised form and be expressed behaviorally (increased alcohol or drug use, e.g., Campbell, Franco, & Jurs, 1988; Speckhard, 1987) or through psychosomatic symptoms such as anorexia (e.g., Spaulding & Cavenar, 1978).

Upon learning from society that emotional reactions were unacceptable topics of conversation, women in Speckhard's (1987) study reported that they questioned the validity of their emotional reactions. Their self-doubt concerning the validity of negative reactions appeared to contribute to increased personal and emotional stress. Women reported an increase in suicidal thoughts and attempts, extreme social isolation, impaired daily functioning due to overwhelming depression, nervous tension,

insomnia, and inability to concentrate. They attempted to cope using denial and repression to lower their subjectively felt discomfort. Most stated this emotional numbness did not last. Thus, further study is necessary to determine if and when denial and repression begin to operate for some women, and if these defense mechanisms inhibit the expression of negative reactions around the time of the abortion. Researchers must also question how long the defense mechanisms last and whether or not they become more pathological over time.

Nevertheless, many studies continue to report immediate and short-term reactions of relief without addressing such issues as an individual's defense mechanisms. While treating a woman with severe obsessive-compulsive disorder (she had had three abortions six to eleven years earlier), McCraw (1989) concluded that follow-ups a few weeks or months after abortion are misleading because women do not experience significant guilt and depression until years later. This reaction can be so severe as to lead to suicide attempts, psychotic reactions and conversion disorders requiring hospitalization. He cited David et al. (1981) as a reminder that a greater number of women who have had abortions require psychiatric hospitalizations than women who carry their pregnancies to term.

In summary, some empirical and clinical support exists to testify that women undergoing abortions use various

defense mechanisms to cope. The decision to abort often involves conflicting motivations, and women are likely to use intrapsychic processes, such as denial and repression, which permit them to cope with the conflict. These defense mechanisms protect them from stressful perceptions, cognitions, and affects (Bracken et al., 1974). The degree and extent to which women use denial remains unknown. However, clinical as well as empirical data support its use by women coping with abortion. Researchers need to begin to assess the impact defense mechanisms have on abortion self-report measures; otherwise denial's effects will only remain hypothetical. Considering that many women who fail to return for follow-up use denial to cope, the literature apparently underestimates the number of women who suffer negative reactions to their abortion.

Can literature on long-term effects shed any light on the use of denial? One would expect that if a majority of women were using denial during and shortly after the abortion that over time a greater number might evidence distress, as defense mechanisms wane. On the other hand, if denial is successful at keeping stressful feelings at bay, then long-term negative effects would be minimal, if any. The long-term effects of abortion will now be examined in light of this discussion on denial and repression.

Long-Term Psychological Effects

Methodological Comments

As to be expected, the literature studying long-term effects suffers from similar methodological weaknesses as does the short-term effects research. Attrition, self-report, small sample size, and researcher ambiguity all impinge upon studies' validities. Long-term follow-up assessment was generally administered between nine and eighteen months after the abortion or term delivery. Retrospective studies, like Speckhard's (1987), did survey women anywhere from 1 to 25 years after their abortions, and though they were weaker empirically, they presented important information regarding negative sequelae. Empirical studies that examined women before and shortly after their abortions and then years later are not available in the literature.

Studies presented here represent a small sample of typical long-term research. This selected group is discussed because it illustrates the potential importance of denial in suppressing short-term negative effects in a counterproductive manner. This suppression may increase the risk for serious negative effects in the future. Two studies that examined the effects of subsequent pregnancy or the desire for future children on women's emotional state will be discussed. These studies shed light on the probable impact of denial and on women likely to be at-risk for

emotional distress. Denial is most likely to break down in the future during a woman's subsequent pregnancies or during a period in which she is more active in planning to have children.

Emotional Sequelae Following Abortion

In keeping with short-term results, studies examining the long-term effects of abortion have reported that abortion is a relatively benign procedure, leading to neither great harm nor great benefit on a number of social and emotional variables (Athanasiou, Oppel, Michelson, Unger, & Yager, 1973; Burnell & Norfleet, 1986; Robbins, 1979). Follow-up was obtained between 12 and 18 months after the abortion. Two of the studies used the Minnesota Multiphasic Personality Inventory (MMPI) along with other pre-test measures. Another only used a mailed questionnaire as a follow-up measure, with no measure of functioning prior to abortion. For the most part, these studies represent methodological improvements in the literature (e.g., use of standard tests and statistical analyses). However, each evokes unique criticisms which raise questions regarding its conclusions.

Athanasiou et al. (1973) compared three matched subsets of 38 women each in different pregnancy outcome groups (term delivery, suction curettage, and saline induction) to assess any characteristic differences that might make some women more at risk to resultant emotional disturbance. Both

before abortion or expected delivery and 13 to 16 months afterwards women completed two attitude scales which assessed their self-esteem and sense of social integration or isolation. An MMPI and a Symptom Check List also were administered at the follow-up interview.

Athanasiou et al.'s results indicated that the only reliable difference in average scores occurred on the Paranoia scale of the MMPI with term patients having higher scores than either early or late trimester abortion patients. No differences existed between groups' pre- or post-procedure scores on the two attitude scales. The researchers also examined individual scores and results indicated that among abortion patients, low self-esteem, low contraceptive knowledge, high alienation, and delay in seeking abortion were related to long recovery times, psychopathology (as indicated by the MMPI), and a large number of body symptoms. They do not report the numbers of these at-risk women in respect to all women seeking abortion. Importantly, Athanasiou et al. were among the first to recommend that hospitals use inexpensive screening procedures to identify these at-risk patients and provide them with more extensive counseling.

Though Athanasiou et al. (1973) discovered women who were at greater risk for emotional and social distress (as indicated by MMPI results and increased physical symptoms), they concluded that abortion was a benign procedure compared

to term birth. Athanasiou et al. also stated that "we strained at a camel and swallowed a gnat" (p. 230) in looking for group differences. Is it possible Athanasiou et al. were aware that the small sample size could have accounted for the insignificant group differences? The small sample size and a 43% attrition rate could very likely explain the lack of significant differences between the groups.

Robbins' (1979) study can also be critiqued for an extremely small sample size. However, his sample differed from most others in the literature. He studied 41 medically indigent black women between the ages of 15-23 years who were unmarried and pregnant for the first time. He also used the MMPI as a pretest and a one-year follow-up post-test. Robbins' analyses demonstrated no relation between the objective (MMPI) and subjective (self-report concerning feelings of regret and willingness to repeat the abortion) indicators. He concluded that the affectivity reported by some women after induced abortion may have little impact on overall psychological functioning.

Robbins (1979) can be faulted for lack of specificity in reporting. He did not report whether MMPI scores changed at post-test, nor did he note any elevated scales. He gave no information in regards to negative affect findings (specific feelings and number of women concerned) which again raises the question of researcher ambiguity. Robbins

also fails to mention that both his measures could be considered subjective self-report.

Burnell and Norfleet's (1986) survey study used only a self-report questionnaire (the nature of which was unspecified) to examine long-term effects 18 months after abortion. Though they recognized methodological problems inherent with questionnaires, they did not address the implications of the 29% attrition rate before concluding that the sample viewed abortion in positive terms after this passage of time (e.g., relief, satisfaction, improved outlook on life). Their finding replicated the relief reaction to abortion, in addition to the distress reaction in a minority of women.

Upon further examination of the percentages reported in the study, it becomes grossly apparent that the significance of such percentages was overstated. For instance, only 53% reported an improved outlook on life, and 46% an improved energy level (and these percentages reflect some overlap). More significantly, only 49% of the women would consider having another abortion, and yet Burnell and Norfleet claimed this high percentage seemed to reflect the degree of satisfaction with the abortion solution. They failed to comment on the 23% of the women who either weren't sure what they would do if pregnant again, and the 25% who said they would continue the pregnancy to birth. They also avoided discussion of the 15 percent of women whose adjustment

worsened after the abortion (i.e., amount of depression, anxiety, enjoyment in sexual relations, tension), and those who currently reported feeling guilty (14%) and confused (11%). Thus, Burnell and Norfleet, in an effort to advocate the physical and psychological safety of abortion, appear guilty of overstatement given the many methodological weaknesses in their study.

In summary, these studies represent a small sample of the existing long-term effects research, a small group in itself. However, they point to typical methodological weaknesses as well as the common conclusion that abortion, at least in the short long-term, does not lead to negative sequelae. This conclusion does seem quite overstated given the likelihood that women who suffer more distressful reactions avoid follow-up measures and use denial to cope. When contacted for follow-up, they may be more reluctant to return to a clinic for an interview or take the time to fill out a questionnaire that reminds them of a distressing event. Of those that responded to follow-up questionnaires, about 15% reported negative or worsening emotional reaction to the abortion, and only 49% said they would consider having an abortion again. The focus will now shift to life events such as subsequent pregnancy which may trigger negative feelings surrounding abortion.

Impact of Subsequent Actual or Planned Pregnancy

Like Athanasiou et al. (1973), Kumar and Robson (1978)

were also interested in the psychological health of women carrying their babies to term. In studying the health of 119 pregnant women, they unexpectedly uncovered some unusual associations with previous abortion. In the four interviews Kumar and Robson assessed the nature and severity of any recent neurotic disturbance or distress and made a clinical diagnosis; the Eysenck Personality Inventory aided in differential diagnosis. Twenty-five women were diagnosed as depressed, two had phobic disorders, and one was obsessive-compulsive.

Statistical results indicated that 38% of the 21 women who obtained an abortion in the past were now clinically depressed. Only 8% of the 98 women who had not had abortions were depressed. Having had a miscarriage only did not predispose subjects to depression; two of the 13 (15%) were found to be depressed (no significant difference). Thus, women who were currently pregnant and who previously had abortions were significantly more likely to be clinically depressed than women who had not had abortions prior to their current pregnancy.

Kumar and Robson (1978) also reported information concerning an increase in fears of fetal abnormalities in women who had abortions, whether or not they had a clinical diagnosis. While most women felt some fears, those who had aborted previously associated guilt with their fears. The authors concluded that unresolved feelings of grief, guilt,

and loss may remain dormant long after an abortion until they are apparently reawakened by another pregnancy. They suggested that in purely numerical terms there may be many women who might be helped by suitable counseling at the time of the abortion.

Kumar and Robson's (1978) findings are particularly important in light of the theorizing and evidence concerning denial and repression. The results add credence to the importance of defense mechanisms before, during, and after the abortion procedure to avoid any possible unpleasant thoughts and feelings. These distressful feelings do seem to exist, but may not be reawakened unless a similar subsequent event such as another pregnancy occurs. Based on such evidence, follow-up interviews that occur before two years have passed seem inadequate.

Though she did not interview pregnant women, Greenglass (1977) examined the differential effects of abortion on 188 women who either planned to bear children later in life, or did not anticipate children. Of the 95 women who planned to bear children, 82 (86.3%) had no existing children at the time of the abortion; most of these women were single. The women were interviewed (location not indicated) and given a questionnaire and a Differential Personality Inventory to complete anywhere from 17 to 68 weeks (average 36.5 weeks) after the abortion.

Results indicated that women who planned to bear

children appeared to have more neurotic symptoms (e.g., "broodiness" (sic), health concern, ideas of persecution, mood fluctuation, perceptual distortion, and somatic complaints) than did those who planned not to bear children and those who were unsure. Interestingly, these women were also more likely to attribute depression, guilt, and psychological problems to hypothetical women who have abortions. They also tended to agree less than those with no fertility plans that a woman can feel completely psychologically fulfilled without children.

Greenglass (1977) concluded that for the woman who plans to have children, abortion is an ambivalent event. Though these women freely chose the abortion, most were single and had the abortion, not because they did not want children, but because having a child at that time would create social and financial difficulties. Wanting children and having an abortion creates dissonance, especially when children are seen as a central part of one's self-perception. In an attempt to relieve their anxiety, Greenglass stated that these women appear to have projected their negative attitudes and feelings onto others who have abortions. She advocated that clinicians who treat women after abortions allow the women who plan to have children to discuss their ambivalence about abortion.

Future fertility plans, then, appear to have some relevance to women's longer term reactions to abortion.

Whether women are currently pregnant or hope to become pregnant again, negative emotional reactions are more likely following an abortion. Pregnant women who have had previous abortions may find themselves more depressed and fearful than pregnant women who have not undergone abortions (Kumar & Robson, 1978). Women who want to bear children in the future are more likely to have negative attitudes towards abortion and evidence more neurotic symptoms than those who do not want children or are unsure (Greenglass, 1977). Importantly, defense mechanisms (e.g., denial and projection) seem to be at work warding off anxiety and other unpleasant feelings. In longer-term follow-up then, women may still express relief and satisfaction. However, the extent to which they are using defense mechanisms to cope remains unknown. Feelings of grief, guilt, and loss may not surface until years later when reawakened by a subsequent pregnancy.

These two studies suggest that defense mechanisms are present in many post-abortive women, and that these defense mechanisms are more likely to break down in future situations concerning the women's fertility. Evidence indicates that women who want to and later become pregnant following an abortion are at greater risk for a negative, more stressful reaction. This evidence seems to correlate with findings stated earlier that women who wanted their pregnancies but chose to abort them were at greater risk for

depression and anxiety (Freeman, 1977; Major et al., 1985). Heightened ambivalence surrounding the abortion decision seems to be a key factor in predicting women's emotional reactions. The focus will now move to the factors that predict a more negative outcome following abortion.

Predicting Women At Risk

Because a definite number of women do suffer serious psychological reactions, which may not surface for months or years after their abortions, it seems critical to try and identify in advance those who will have difficulties. Given the evidence for an underestimation of negative effects in the research (due to demand characteristics, attrition and denial), many women apparently slip by unnoticed and do not receive additional counseling before and after their abortions. Estimates of severe psychological distress following an abortion range from .2% that need hospitalization to 38% who become clinically depressed during a subsequent pregnancy. Even if only 10% of women undergoing abortions suffer negative reactions, then clinicians must be prepared to deal with approximately 150,000 women annually who experience some serious emotional difficulty at some time subsequent to the abortion. In some high risk cases, it may be appropriate to urge a woman not to have an abortion (McCraw, 1989). While more research is needed to pinpoint which of the numerous risk factors are the most

critical predictors, clinicians can begin educating themselves on general risk factors.

Lemkau's (1988) literature review discusses four areas of inquiry to assess risk factors. These four areas will be used as a framework to examine the high-risk factors for adverse emotional effects: (a) characteristics of the woman prior to and at the time of the abortion, (b) the nature of social support and the cultural milieu around the abortion, (c) characteristics of the medical environment and abortion procedure, and (d) events subsequent to the abortion which may have aroused post-decisional conflict.

Characteristics of Women Before and at the Time of Abortion

This area of inquiry deals with the age of the woman at the time of abortion, her marital status, her religious attitudes, her predisposing emotional problems, and her coping expectations. The research suggests that young, unmarried women without children may have greater difficulty resolving their feelings after an abortion (Adler, 1976; Bracken et al., 1974; Campbell et al., 1988; Major et al., 1985). Adolescents are more likely to use less mature defenses such as denial, resulting in decision-making difficulties and delays with the procedure. Delays often warrant the use of procedures involving greater physical and emotional risk (e.g., saline induction). These finding are particularly significant because the greatest majority of women presenting for abortion are unmarried (81%) and below

the age of 25 (62%) (LaCayo, 1989).

Women whose religious convictions were disparate with abortion also are more likely to experience stressful reactions (Adler, 1976; Osofsky & Osofsky, 1972; Speckhard, 1987; Strassberg & Moore, 1985). Catholic women and those with strong moral or religious reservations often report an increased sense of guilt and sin that complicates the recovery. Often these women feel God may punish them for their sin in the future (Lemkau, 1988). Therapy may need to involve a combination of griefwork, in which women mourn and say goodbye to their infant, and self-forgiveness rituals, in which women offer themselves forgiveness and absolution consistent with their beliefs.

Finally, women with poorer coping resources, including predisposing emotional problems, evidence greater distress following abortion (Davidson & Clare, 1989; Major et al., 1985; McCraw, 1989). Psychosocial instability, poor or no family ties, poor work history, and poor emotional adjustment before pregnancy all impact a woman's ability to cope. Some researchers have suggested that unwanted pregnancy and abortion are really symptoms of pathology rather than the cause (Campbell et al., 1988). Those women who are able to actively confront the problem are less likely to suffer distress than women who cannot accept the loss and avoid facing this reality (Campbell et al., 1988; Lemkau, 1988; Naor et al., 1983). On the other hand, women who expect to

cope poorly do cope less adequately (Major et al., 1985).

Thus, a young, unmarried religious woman undergoing abortion during her second trimester with a wanted pregnancy is at extreme risk for developing a serious psychological reaction. Additionally, if this woman felt pressured by her boyfriend to have the abortion against her parents' wishes, then her probability of experiencing distress increases markedly. She also is more likely to avoid follow-up exams and interviews, and thus fail to get the counseling she needs to process some of her hidden feelings.

Social Support and the Cultural Milieu

As suggested above, social support can have a great impact on a woman's ability to resolve ambivalent and stressful feelings. Women who anticipate support from parents and partners and receive such support fare better than women who feel pressured to have an abortion or who accept it reluctantly (Bracken et al., 1974; McCraw, 1989; Peppers, 1987). Understandably, if complete emotional consent is lacking, the potential for feeling angry, grieved, and exploited increases. When support is lacking, whether due to desertion by a partner or an unstable relationship (Handy, 1982), and the pregnancy is intended, the likelihood of significant negative sequelae increases (David et al., 1981; Freeman, 1977; Greenglass, 1977; Major et al., 1985). Thus, the quality of a woman's social support network and the degree to which she freely chose the

abortion have a strong impact on the quality of her subsequent emotional response. Poor social support often leads to delay in seeking abortion which increases the risks involved.

The Abortion Procedure

Delay in seeking abortion (due to strong ambivalence, inadequate social support or problematic decision-making skills) often results in second and third trimester abortions. Women who wait are half as likely to feel positive about the abortion than first trimester aborters (Athanasiou et al., 1973; Kaltreider, Goldsmith, & Margolis, 1979). Second trimester procedures more often involve a period of labor and the delivery of a recognizable human fetus than are first trimester operations. These procedures are more painful and entail a greater risk of hemorrhage, infection, and other medical complications (Lemkau, 1988). The medical risks of such procedures may result in psychological problems at a later date as chances of subsequent infertility (due to chronic pelvic inflammatory disease) or of spontaneous abortions associated with cervical incompetence increase (Handy, 1982). Subsequent events following abortion thus can reawaken earlier decisional conflict and/or present the woman with new, unexpected complications.

Events Subsequent to the Abortion

Decisions are made based on a person's past experiences

and future expectations. However, people often reconstruct their past in light of new experiences (Lemkau, 1988). Women who have fertility problems and miscarriages or who lose an infant often feel the abortion may be responsible (Harris, 1986). They report feelings of punishment and retribution even if they are not particularly religious (Lemkau, 1988). Though some researchers have concluded these causal connections are highly idiosyncratic and primary process in nature (e.g., Lemkau, 1988), they are excluding women who suffer physical complications from abortion such as pelvic inflammatory disease and endometriosis. Such women seem justified in making a more direct link between current fertility and childbearing difficulties and abortion.

Subsequent events do not necessarily have to be traumatic however. Evidence points to the possibility that simply having another child may awaken hidden feelings of grief and guilt surrounding an abortion (Kumar & Robson, 1978). The woman may compare the different degrees of attachment felt during a wanted pregnancy and a terminated pregnancy. For instance, a woman viewing her 12-week old fetus on a sonagram may experience unexpected sadness as she is reminded of the 12-week old fetus that she terminated. Thus with the first wanted pregnancy, grief may appear as the woman becomes more fully aware of the loss that has occurred (Harris, 1986). Subsequent events then, both

positive and negative, can arouse ambivalence, negative affect, and post-decisional conflict.

In summary, a number of factors that predispose women for adverse emotional effects are reported in the research literature. These involve the characteristics of the woman, her social support, the abortion method, and future life events. The clinical picture indicates that an unstable young and unmarried religious woman, who felt coerced into giving up a wanted child and delayed seeking abortion, is at greatest risk for negative emotional sequelae. McCraw (1989) boldly claimed that some women, such as the one described, should be urged not to have an abortion. Extending similar findings over all age groups, he added that more research is needed to determine which of the numerous risk factors are the most crucial predictors.

Lemkau (1988) concluded her review of risk factors by advocating that clinicians address those aspects of the abortion experience that women have difficulty resolving. As a woman clarifies, establishes and asserts her values in making difficult decisions, she is better able to tolerate and resolve the ambivalence inherent in such a decision. Lemkau reminded clinicians that "even women who report negative post-abortion sequelae overwhelmingly report that they feel that the decision was the right one for them" (p. 469).

Concluding Comment

While this author agrees with Lemkau's (1988) emphases on the importance of addressing unresolved feelings and reactions in therapy, it is precisely such overstated and unsubstantiated remarks as that quoted above that mandate a critical response. A number of women do not report feeling satisfied with the decision and do not know if they would choose it again (Freeman, 1977; Monsour & Stewart, 1973). Both of these studies that asked women whether they would choose to have an abortion under similar circumstances in the future found that only a minority (22% in one and 49% in the other) of women said they would. More importantly, women who are more likely to experience negative reactions often are underrepresented in follow-up results. Many have used denial, repression, and projection as a means of coping with stressful, conflicting feelings. Even those who return for follow-up may succumb to the demand characteristics of the interview and report little to no distress. Until adequate, empirically sound research is conducted with large sample sizes, relevant control groups, and substantially longer follow-ups, such conclusions as the one above will remain grossly overstated and misrepresentative of the total population of women undergoing abortions.

Depending on the segment of the population one studies, one is likely to conclude either that adverse effects of abortion do not exist, or that serious negative reactions

are more common than is generally recognized. Concluding that adverse effects of abortion do not exist is not a viable conclusion, despite the fact that many authors come to that conclusion. It is viable to conclude from available evidence that adverse effects are rare and the exception rather than the rule. However, if negative effects exist only for 1% of the women who have had an abortion, then 15,000 American women annually can be expected to suffer psychological pain or discomfort. This group of 15,000 women constitutes an important risk group of which clinicians and abortion clinics across the country should be aware. More accurate estimates are needed to identify the size of the minority of women who suffer negative emotional effects following an abortion. Relatedly, research can help clinicians and clinics to better predict which pregnant women are most at risk for such negative sequelae and then to design and facilitate effective treatments for them.

This review documents that bias has existed in the abortion literature before and after 1973. Authors most likely had good motivations behind their biases, such as supporting a woman's privacy and freedom of choice concerning a problematic pregnancy. Nevertheless, the effect of those biases is to hinder accurate estimates of the percentage of women experiencing negative effects of abortion and to hinder prevention and treatment of such problems by creating a myth that such problems do not exist. Researchers, state legislatures, and the general public

would do best to avoid sweeping generalizations until more accurate data is collected. Until then, politics and emotions will be guaranteed a greater voice in the abortion controversy than the voices of truth and reason.

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